Lawler, Matusky & Skelly Engineers LLP
Environmental Science & Engineering Consultants

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Mr. Mauricio Roma
Environmental Analysis Bureau
New York State Department of Transportation
50 Wolf Road, POD # 41
Albany, New York 12232

RE: Harrison Subresidency Landfill, Westchester County, New York
DO15410, P.I.N. 8806.51.301

Dear Mr. Roma:

The following is a summary of the findings of the groundwater, surface water and sediment results of the following sampling surveys at the Harrison Landfill:

Third Year – Second Quarter (February 2003)
Third Year – Third Quarter (May 2003)
Third Year – Fourth Quarter (August 2003)

Fourth Year – First Quarter (March 2004)
Fourth Year – Second Quarter (June 2004)
Fourth Year – Third Quarter (September 2004)

Copies of all the above referenced reports, data tables and attachments were previously submitted, therefore these documents will not be included as attachments to this report.

FIELD INVESTIGATION

Sampling Procedures

Please refer to previous quarterly reports (i.e. first and second years) for information on groundwater, surface water and sediment sampling procedures, which have not changed.

Gas Monitoring

Gas monitoring results indicate that there were no readings detected above the preset alarm levels for methane, hydrogen sulfide, carbon monoxide and oxygen at the gas vents

or perimeter of the site. There were no readings for volatile organic compounds (VOCs) above background levels at the vents or perimeter of the landfill.

Landfill Inspections

Landfill inspections indicate that with the exception of PC-2, the monitoring wells were found to be in good condition. Between March 2004 and June 2004, the New York City Department of Environmental Protection (NYCDEP) removed the off-site well, PC-4, during the construction of a retention basin.

ANALYTICAL RESULTS

Groundwater

Results of the third and fourth year quarterly sampling surveys indicate that the landfill appears to be contributing elevated levels of several non-RCRA metals (i.e. antimony, iron and manganese) and the RCRA metal selenium to the groundwater.

External sources (either upgradient or off-site) appear to be contributing elevated levels of the RCRA metals chromium and mercury and the non-RCRA metal magnesium to the groundwater. The unfiltered sample results indicate that elevated levels of both RCRA and non-RCRA metals may be the result of increased sample turbidity, which could occur during sampling activities. Chloride results indicate that the highest concentrations were detected in PC-3 which indicates an off-site source of chloride in the groundwater.

Results of the fourth year first quarter sampling survey indicate there were no concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/PCBs or cyanide detected in the groundwater above the Class GA groundwater drinking water standards.

Surface Water

The third year second quarter results indicate that the landfill appears to be contributing elevated levels of the RCRA metals chromium, lead and mercury to the surface water. However, these metals were not detected above the Class GA standards in subsequent quarterly sampling surveys. In general the surface water results do indicate that the landfill appears to be contributing elevated levels of non-RCRA metals, (i.e. iron and manganese) and one RCRA metal (selenium) to the surface water. Upstream sources

appear to be contributing elevated levels of the RCRA metal selenium (third year only) and the non-RCRA metals manganese and sodium (fourth year only) to the surface water. The analytical results indicate that concentrations of chloride detected in the upstream sample location SW-1 may be contributing to the chloride concentrations detected in the surface water. The fourth year first quarter analytical results indicate that there were no concentrations of VOCs, SVOCs, pesticides/PCBs or cyanide detected above the Class GA groundwater drinking water standards in the surface water.

Sediment

In general the analytical results indicate that the landfill appears to be contributing elevated levels of the RCRA metals lead and silver and the non-RCRA metal manganese to the sediment. Samples collected from an upgradient location indicate that external sources may be contributing to the elevated levels of the RCRA metal chromium and the non-RCRA metals copper, iron, and nickel to the sediment. There is no sediment criterion for chloride. However, in general, chloride has not been detected in the sediment. The fourth year first quarter analytical results indicate that there were no concentrations of VOCs, SVOCs, pesticides/PCBs or cyanide detected above the criteria water standards in the sediment.

CONCLUSIONS

The analytical results indicate that the following RCRA metals (contaminants of concern) were detected at concentrations exceeding the Class GA groundwater drinking water standards and/or the sediment criteria.

Cadmium

Cadmium was detected above the sediment criterion in the samples collected during the first quarter of the fourth year. Subsequent analyses indicate that cadmium concentrations have declined to levels below the criterion.

Chromium

Chromium was detected above the Class GA standard in an unfiltered surface water sample in a sample collected during the second quarter of the third year. Subsequent analyses indicate that chromium concentrations have declined to levels below the Class

GA standard. Chromium was not detected above the Class GA standard in the filtered groundwater samples. Elevated levels of chromium were detected above the criterion in the sediment samples. Analysis of the data indicates the concentration of chromium in the sediment is increasing slightly over time, however, the elevated concentrations detected in SD-1 indicate an external source of chromium in the sediment.

Lead

Lead was not detected above the Class GA standard in the filtered groundwater samples. Analytical results of surface water samples collected during the second quarter of the third year indicate that lead was detected above the class GA standard in one sample. Subsequent analyses indicate that lead concentrations have declined to levels below the Class GA standard in the surface water. Lead was detected above the sediment criterion in samples collected during each of the six sampling events. The results indicate that there has been an increase in concentration with time (from 35 ppm to 140 ppm). However, all detected concentrations are within the normal background range for this area (NYSDEC TAGM HWR-94-4046).

Mercury

Mercury was detected in the filtered groundwater and the unfiltered surface water samples collected during the second quarter of the third year at concentrations exceeding the Class GA standard. Subsequent analyses indicate that mercury levels have declined below the Class GA standard in the groundwater and surface water. Mercury was not detected above the criterion in the sediment samples.

Selenium

Selenium was detected in the filtered groundwater samples and the unfiltered surface water samples at concentrations exceeding the Class GA standard. However, subsequent analyses indicate that the levels of selenium detected in groundwater and surface water have declined over time. There is no sediment criterion for selenium.

Silver

Silver was detected above the sediment criterion during the first quarter of the fourth year in the sample collected from the upgradient location SD-1 which indicates an external

source of silver in the sediment. Subsequent analyses indicate that the levels of silver detected in the sediment have declined over time.

In conclusion the analytical data suggests that the landfill continues to contribute elevated levels of the RCRA metal lead to the sediment. However, the concentrations are within the normal background range for this area.

If you have any questions, please contact me at 845-294-2789.

Very truly yours,

Theresa M. Schneider
Project Geologist
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CC: Mark Grainer, Consultant Management Bureau